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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/665,350	09/22/2003	Mark R. Kinkelaar	024948-00050	4923
23973 7590 12/28/2006 DRINKER BIDDLE & REATH ATTN: INTELLECTUAL PROPERTY GROUP ONE LOGAN SQUARE 18TH AND CHERRY STREETS PHILADELPHIA, PA 19103-6996			EXAMINER YUAN, DAH WEI D	
			ART UNIT	PAPER NUMBER
			1745	
SHORTENED STATUTORY PERIOD OF RESPONSE		MAIL DATE	DELIVERY MODE	
3 MONTHS		12/28/2006	PAPER	

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/665,350

Applicant(s)

KINKELAAR ET AL.

Examiner

Dah-Wei D. Yuan

Art Unit

1745

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 October 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-220 is/are pending in the application.
- 4a) Of the above claim(s) 186-201 and 216-220 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-185 and 202-215 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date See Continuation Sheet.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____.

Continuation of Attachment(s) 3). Information Disclosure Statement(s) (PTO/SB/08), Paper No(s)/Mail Date
:09222003,01082004,07012004,11042004,12032004.

ORIENTATION INDEPENDENT FUEL RESERVOIR CONTAINING LIQUID FUEL

Examiner: Yuan

S.N. 10/665,350

Art Unit: 1745

December 20, 2006

Election/Restrictions

1. Applicant's election without traverse of Group I-1, claims 1-185, 202-215, in Paper filed October 26, 2006 is acknowledged. Claims 186-201, 216-220 are withdrawn from consideration.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-7, 15-19, 29-41, 45-47, 53-56, 59-66, 70-75, 79-89, 93-119, 121-125, 130, 132-138, 140-144, 146, 148-152, 154-158, 160-164, 166, 168-172, 174-185, 202, 203, 214, 215 are rejected under 35 U.S.C. 103(a) as being Hockaday (US 6,326,097 B1) in view of Olsen et al. (US 6,460,985 B1) and Streib (US 2002/0157655 A1).

With respect to claims 1, 40, 65, 75, 79-82, 88, 95-111, 121-125, 130, 135, 413, 151, 163, 171, 178-180, 202, 203, Hockaday teaches a device powered by a fuel cell comprising a fuel tank (70) (fuel container) that is connected to the anode of the fuel cell array (68) by a fuel tube (71). The fuel tube is connected to an outlet, which has no wicking structure, in the fuel tank that provides fluid communication between the fuel tank and the fuel cell array. See Column 11, Line 47 to Column 12, Line 52; Figure 12. However, Hockaday does not specifically disclose the wicking

structure within the container. Olsen et al. teach a container for providing fluid comprising a wicking structure. The container (12) includes a reservoir (34) having a fluid outlet (36) (first port) and an air inlet (38). Disposed within the reservoir is a network of fibers that defines a capillary storage member (40) (wicking structure). The capillary is sufficient to retain fluid within the container for all orientations of the reservoir as well as undergoing shock and vibration during handling. The position of the capillary member with respect to the dimension of the container is shown in Figures 7 and 8. See Column 3, Lines 34-49. Therefore, it would have been obvious to one of ordinary skill in the art to use the wicking structure of Olsen et al. onto the fuel reservoir of Hockaday, because Olsen et al. teach the wicking structure can retain fluid within the container for all orientations of the reservoir and during handling.

Moreover, Hockaday and Olsen do not teach that the liquid fuel reservoir further comprises an impurity scavenger disposed in the outlet of the reservoir. Streib teach a fuel cell tank comprising an active charcoal filter (12) disposed in the outlet of the fuel tank. The hydrocarbon vapors enter the charcoal filter are reversibly bonded in the filter. See Paragraphs 29,30. Therefore, it would have been obvious to one of ordinary skill in the art to include the active charcoal filter (impurity scavenger) onto the outlet of the liquid fuel reservoir of Hockaday and Olsen, because Streib teaches the use of the filter to remove the hydrocarbon vapor from the liquid fuel reservoir.

With respect to claims 1-7,59,71-73,114-119,181-185, the disclosure of Hockaday and Olsen differs from Applicant's claims in that Hockaday and Olsen do not specifically disclose the wicking structure volume in the container. However, Olsen et al. recognize the relative

dimensions of the wicking structure can be modified depending on the desirable capacity of the container. See Column 4, Lines 48-67. Therefore, it would have been within the skill of the ordinary artisan to adjust the volume of the wicking structure in the container depending on capacity requirement of the fuel reservoir. *Discovery of optimum value of result effective variable in known process is ordinarily within skill of art.* In re Boesch, CCPA 1980, 617 F.2d 272, 205 USPQ215.

With respect to claim 15, Olsen discloses that the print head (24) can act as a one-way valve that only allow liquid to flow out of the container.

With respect to claims 16-19,53-56, Olsen teaches the wicking structure contacts at least one portion of an inner surface of the side wall and proximal wall of the container. See Figure 8.

With respect to claim 29, it is noted the claim is a product-by-process claim. “Even though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process.” In re Thorpe, 777 F. 2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985). Since Olsen’s actual fuel reservoir is similar to that of the Applicant’s, Applicant’s process is not given patentable weight in this claim.

With respect to claims 30-39,60-64,74,83-87,94,134,142,150,162,170,174-177, Olsen et al. teach the capillary member is preferably a bi-component fiber having polypropylene core and a polyethylene terephthalate sheath. Also, surface-treated polyurethane foam can be used as the

capillary membrane material. See Column 6, Lines 44-67; Column 7, Lines 17-33. Olsen et al. do not specifically disclose the density, pore size, compression ratio and fuel delivery efficiency of the polyurethane foam in the wicking structure. However, it is the position of the examiner that such properties are inherent, given that both Olsen et al. and the present application utilize similar polyurethane foam material. A reference which is silent about a claimed invention's features is inherently anticipatory if the missing feature *is necessarily present in that which is described in the reference*. In re Robertson, 49 USPQ2d 1949 (1999)

With respect to claims 41,66,89,136,144,152,164,172, Hockaday teaches the use of pump to delivery liquid. See Abstract.

With respect to claims 45,70,93, the air outlet in Olsen is considered as a two-way valve.

With respect to claims 46,47,112,113,132,133,140,141,148,149,160,161,168,169, Olsen et al. do not specifically disclose the free rise wick height of the wicking structure with respect to the dimension of the fuel container. However, it is the position of the examiner that such properties are inherent, given that both Olsen et al. and the present application utilize similar wicking structure (capillary member). A reference which is silent about a claimed invention's features is inherently anticipatory if the missing feature *is necessarily present in that which is described in the reference*. In re Robertson, 49 USPQ2d 1949 (1999).

With respect to claims 138,146,154-158,166,181-185, it is the position of the examiner that disclosure provides no evidence of criticality and patentable distinction with regard to the shape of the wicking structure. Also, it is well known in the art that location of the wicking structure within the container can be varied depending on the amount of the capillary member in

the container. Therefore, it would have been within the skill of the ordinary artisan to adjust the location of wicking structure in the container depending on the design requirement of the fuel container. *Discovery of optimum value of result effective variable in known process is ordinarily within skill of art.* In re Boesch, CCPA 1980, 617 F.2d 272, 205 USPQ215.

With respect to claims 214,215, Streib teaches the use of activated charcoal as the impurity scavenger. See Figure 12, Paragraphs 29,30.

4. Claims 1-7,15-19,29-41,45-47,53-56,59-66,70-75,79-89,93-119,121-125,130,132-138,140-144,146,148-152,154-158,160-164,166,168-172,174-185,204-215 are rejected under 35 U.S.C. 103(a) as being Hockaday (US 6,326,097 B1) in view of Olsen et al. (US 6,460,985 B1) and Gerhardt et al. (US 2004/0154670 A1).

With respect to claims 1,40,65,75,79-82,88,95-111,121-125,130,135,413,151,163,171, 178-180,204, Hockaday teaches a device powdered by a fuel cell comprising a fuel tank (70) (fuel container) that is connected to the anode of the fuel cell array (68) by a fuel tube (71). The fuel tube is connected to an outlet, which has no wicking structure, in the fuel tank that provides fluid communication between the fuel tank and the fuel cell array. See Column 11, Line 47 to Column 12, Line 52; Figure 12. However, Hockaday does not specifically disclose the wicking structure within the container. Olsen et al. teach a container for providing fluid comprising a wicking structure. The container (12) includes a reservoir (34) having a fluid outlet (36) (first port) and an air inlet (38). Disposed within the reservoir is a network of fibers that defines a capillary storage member (40) (wicking structure). The capillary is sufficient to retain fluid

within the container for all orientations of the reservoir as well as undergoing shock and vibration during handling. The position of the capillary member with respect to the dimension of the container is shown in Figures 7 and 8. See Column 3, Lines 34-49. Therefore, it would have been obvious to one of ordinary skill in the art to use the wicking structure of Olsen et al. onto the fuel reservoir of Hockaday, because Olsen et al. teach the wicking structure can retain fluid within the container for all orientations of the reservoir and during handling.

Moreover, Hockaday and Olsen do not teach that the liquid fuel reservoir further comprises an impurity scavenger disposed in the outlet of the reservoir. Gerhardt et al. teach a fuel tank comprising an activated carbon filter disposed in a porous enclosure inside the liquid container. The filter is used to ventilate the area of the chamber located above the fuel during refueling and/or during operation. See Paragraph 1, Figure 2-5. Therefore, it would have been obvious to one of ordinary skill in the art to include the active charcoal filter (impurity scavenger) inside the liquid fuel reservoir of Hockaday and Olsen, because Gerhardt et al. teach the use of the filter to ventilate the area of the chamber located above the fuel during refueling and/or during operation.

With respect to claims 1-7,59,71-73,114-119,181-185, the disclosure of Hockaday and Olsen differs from Applicant's claims in that Hockaday and Olsen do not specifically disclose the wicking structure volume in the container. However, Olsen et al. recognize the relative dimensions of the wicking structure can be modified depending on the desirable capacity of the container. See Column 4, Lines 48-67. Therefore, it would have been within the skill of the ordinary artisan to adjust the volume of the wicking structure in the container depending on

capacity requirement of the fuel reservoir. *Discovery of optimum value of result effective variable in known process is ordinarily within skill of art.* In re Boesch, CCPA 1980, 617 F.2d 272, 205 USPQ215.

With respect to claim 15, Olsen discloses that the print head (24) can act as a one-way valve that only allow liquid to flow out of the container.

With respect to claims 16-19,53-56, Olsen teaches the wicking structure contacts at least one portion of an inner surface of the side wall and proximal wall of the container. See Figure 8.

With respect to claim 29, it is noted the claim is a product-by-process claim. “Even though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process.” In re Thorpe, 777 F. 2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985). Since Olsen’s actual fuel reservoir is similar to that of the Applicant’s, Applicant’s process is not given patentable weight in this claim.

With respect to claims 30-39,60-64,74,83-87,94,134,142,150,162,170,174-177, Olsen et al. teach the capillary member is preferably a bi-component fiber having polypropylene core and a polyethylene terephthalate sheath. Also, surface-treated polyurethane foam can be used as the capillary membrane material. See Column 6, Lines 44-67; Column 7, Lines 17-33. Olsen et al. do not specifically disclose the density, pore size, compression ratio and fuel delivery efficiency of the polyurethane foam in the wicking structure. However, it is the position of the examiner

that such properties are inherent, given that both Olsen et al. and the present application utilize similar polyurethane foam material. A reference which is silent about a claimed invention's features is inherently anticipatory if the missing feature *is necessarily present in that which is described in the reference*. In re Robertson, 49 USPQ2d 1949 (1999)

With respect to claims 41,66,89,136,144,152,164,172, Hockaday teaches the use of pump to delivery liquid. See Abstract.

With respect to claims 45,70,93, the air outlet in Olsen is considered as a two-way valve.

With respect to claims 46,47,112,113,132,133,140,141,148,149,160,161,168,169, Olsen et al. do not specifically disclose the free rise wick height of the wicking structure with respect to the dimension of the fuel container. However, it is the position of the examiner that such properties are inherent, given that both Olsen et al. and the present application utilize similar wicking structure (capillary member). A reference which is silent about a claimed invention's features is inherently anticipatory if the missing feature *is necessarily present in that which is described in the reference*. In re Robertson, 49 USPQ2d 1949 (1999).

With respect to claims 138,146,154-158,166,181-185, it is the position of the examiner that disclosure provides no evidence of criticality and patentable distinction with regard to the shape of the wicking structure. Also, it is well known in the art that location of the wicking structure within the container can be varied depending on the amount of the capillary member in the container. Therefore, it would have been within the skill of the ordinary artisan to adjust the location of wicking structure in the container depending on the design requirement of the fuel

container. *Discovery of optimum value of result effective variable in known process is ordinarily within skill of art.* In re Boesch, CCPA 1980, 617 F.2d 272, 205 USPQ215.

With respect to claims 205,206, Gerhardt et al. teach a portion of the internal space is devoid of the wicking structure. See Figures 2-4.

With respect to claims 207-212, Gerhardt et al. teach the activated carbon filter can be secured to an upper shell part, a molded formation or a base region of the fuel tank. See Figures 1-4. The court has held that mere duplication of parts has no patentable significance unless a new and unexpected result is produced. *In re Harza*, 274 F.2d 669, 124 USPQ 378 (CCPA 1960). Therefore, it would have been within the skill of the ordinary artisan to install at least two porous internal compartments disposed inside the fuel container, because one of ordinary in the art would recognize that the a plurality of filters can be disposed in an upper shell part, a molded formation and a base region of the fuel tank to enhance the ventilation inside the tank.

With respect to claims 213-215, Gerhardt et al. teach the use of activated charcoal as the impurity scavenger. See Paragraph 1, claim 4.

5. Claims 8-14,20-28,48-52,57,58,76-78,120,131,139,147,159,167 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hockaday (US 6,326,097 B1) in view of Olsen et al. (US 6,460,985 B1) and Streib (US 2002/0157655 A1) as applied to claims 1-7,15-19,29-41,45-47,53-56,59-66,70-75,79-89,93-119,121-125,130,132-138,140-144,146,148-152,154-158,160-164,166,168-172,174-185,202,203,214,215 above, and further in view of Childs et al. (US 6,652,080 B2).

Hockaday and Olsen et al. disclose a liquid fuel reservoir for a fuel cell system as described above in Paragraph 3. However, Hockaday and Olsen do not disclose the reservoir further comprises a retainer to hold the wicking structure. Childs teach a fluid delivery system wherein the capillary chamber comprises capillary material and a filter (66) (retainer). The filter is used to separate the capillary material from an outlet, which transitions into fluid channels. The filter can be fabricated from a fine mesh screen. See Column 3, Lines 6-16; Figure 1. Therefore, it would have been obvious to one of ordinary skill in the art to add a filter onto the fuel reservoir of Hockaday and Olsen, because Childs et al. teach the use of a filter to retain the wicking material.

With respect to claim 28, the filter is considered as a clamp that it used to keep the capillary material (62) between the opposing walls of the capillary chamber (60).

6. Claims 8-14,20-28,48-52,57,58,76-78,120,131,139,147,159,167 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hockaday (US 6,326,097 B1) in view of Olsen et al. (US 6,460,985 B1) and Gerhardt et al. (US 2004/0154670 A1) as applied to claims 1-7,15-19,29-41,45-47,53-56,59-66,70-75,79-89,93-119,121-125,130,132-138,140-144,146,148-152,154-158,160-164,166,168-172,174-185,204-215 above, and further in view of Childs et al. (US 6,652,080 B2).

Hockaday, Olsen and Gerhardt disclose a liquid fuel reservoir for a fuel cell system as described above in Paragraph 4. However, Hockaday, Olsen and Gerhardt do not disclose the reservoir further comprises a retainer to hold the wicking structure. Childs teach a fluid delivery

system wherein the capillary chamber comprises capillary material and a filter (66) (retainer). The filter is used to separate the capillary material from an outlet, which transitions into fluid channels. The filter can be fabricated from a fine mesh screen. See Column 3, Lines 6-16; Figure 1. Therefore, it would have been obvious to one of ordinary skill in the art to add a filter onto the fuel reservoir of Hockaday, Olsen and Gerhardt, because Childs et al. teach the use of a filter to retain the wicking material.

With respect to claim 28, the filter is considered as a clamp that it used to keep the capillary material (62) between the opposing walls of the capillary chamber (60).

7. Claims 42,67,90,137,145,153,165,173 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hockaday (US 6,326,097 B1) in view of Olsen et al. (US 6,460,985 B1) and Streib (US 2002/0157655 A1) as applied to claims 1-7,15-19,29-41,45-47,53-56,59-66,70-75,79-89,93-119,121-125,130,132-138,140-144,146,148-152,154-158,160-164,166,168-172,174-185,202,203,214,215 above, and further in view of Sharples (US 4,955,512).

Hockaday and Olsen et al. disclose a liquid fuel reservoir for a fuel cell system as described above in Paragraph 3. However, Hockaday and Olsen do not disclose the reservoir further comprises an one-way valve. Sharples teaches a liquid containers wherein a pressure control valve (one-way value) is use to permit ingress of external ambient air to the internal space when there is s pressure differential in the container. See Column 4, Line 63 to Column 5 Lines 19. Therefore, it would have been obvious to one of ordinary skill in the art to add an one-

way valve to the liquid fuel reservoir of Hockaday, Olsen and Streib, because Sharples teaches the use of an one-way valve to eliminate negative pressure inside the container.

8. Claims 42,67,90,137,145,153,165,173 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hockaday (US 6,326,097 B1) in view of Olsen et al. (US 6,460,985 B1) and Gerhardt et al. (US 2004/0154670 A1) as applied to claims 1-7,15-19,29-41,45-47,53-56,59-66,70-75,79-89,93-119,121-125,130,132-138,140-144,146,148-152,154-158,160-164,166,168-172,174-185,204-215 above, and further in view of Sharples (US 4,955,512).

Hockaday, Olsen and Gerhardt disclose a liquid fuel reservoir for a fuel cell system as described above in Paragraph 4. However, Hockaday, Olsen and Gerhardt do not disclose the reservoir further comprises an one-way valve. Sharples teaches a liquid containers wherein a pressure control valve (one-way value) is use to permit ingress of external ambient air to the internal space when there is s pressure differential in the container. See Column 4, Line 63 to Column 5 Lines 19. Therefore, it would have been obvious to one of ordinary skill in the art to add an one-way valve to the liquid fuel reservoir of Hockaday, Olsen and Gerhardt, because Sharples teaches the use of an one-way valve to eliminate negative pressure inside the container.

9. Claim 43,44,68,69,91,92 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hockaday (US 6,326,097 B1) in view of Olsen et al. (US 6,460,985 B1) and Streib (US 2002/0157655 A1) as applied to claims 1-7,15-19,29-41,45-47,53-56,59-66,70-75,79-89,93-

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119,121-125,130,132-138,140-144,146,148-152,154-158,160-164,166,168-172,174-185,202,203,214,215 above.

Hockaday, Olsen and Streib disclose a liquid fuel reservoir for a fuel cell system as described above in Paragraph 3. However, Hockaday, Olsen and Streib do not disclose the reservoir further comprises a sealable, detachable cap. However, it would have been obvious to one of ordinary skill in the art to add a rubber stopper as a cap to the air inlet (38) of Hockaday, because one of ordinary skill in the art would recognize that needle can penetrate through rubber stopper without permanently puncturing the rubber.

10. Claim 43,44,68,69,91,92 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hockaday (US 6,326,097 B1) in view of Olsen et al. (US 6,460,985 B1) and Gerhardt et al. (US 2004/0154670 A1) as applied to claims 1-7,15-19,29-41,45-47,53-56,59-66,70-75,79-89,93-119,121-125,130,132-138,140-144,146,148-152,154-158,160-164,166,168-172,174-185,204-215 above.

Hockaday, Olsen and Gerhardt disclose a liquid fuel reservoir for a fuel cell system as described above in Paragraph 4. However, Hockaday, Olsen and Gerhardt do not disclose the reservoir further comprises a sealable, detachable cap. However, it would have been obvious to one of ordinary skill in the art to add a rubber stopper as a cap to the air inlet (38) of Hockaday, because one of ordinary skill in the art would recognize that needle can penetrate through rubber stopper without permanently puncturing the rubber.

11. Claims 126-129 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hockaday (US 6,326,097 B1) in view of Olsen et al. (US 6,460,985 B1) and Streib (US 2002/0157655 A1) as applied to claims 1-7,15-19,29-41,45-47,53-56,59-66,70-75,79-89,93-119,121-125,130,132-138,140-144,146,148-152,154-158,160-164,166,168-172,174-185,202,203,214,215 above, and further in view of Higuchi (US 6,662,964 B2).

Hockaday, Olsen and Streib disclose a liquid fuel reservoir for a fuel cell system as described above in Paragraph 3. However, Hockaday, Olsen and Streib do not disclose the reservoir is collapsible. Higuchi teaches a liquid container made of collapsible synthetic resin in order to substantially reduce the volume the container body after the discharge of the liquid. See Example 2. Therefore, it would have been obvious to one of ordinary skill in the art to use a collapsible material for the container of Hockaday, Olsen and Streib, because Higuchi teaches the use of a collapsible container to reduce the volume of the container body after the discharge of the liquid.

12. Claims 126-129 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hockaday (US 6,326,097 B1) in view of Olsen et al. (US 6,460,985 B1) and Gerhardt et al. (US 2004/0154670 A1) as applied to claims 1-7,15-19,29-41,45-47,53-56,59-66,70-75,79-89,93-119,121-125,130,132-138,140-144,146,148-152,154-158,160-164,166,168-172,174-185,204-215 above, and further in view of Higuchi (US 6,662,964 B2).

Hockaday, Olsen and Gerhardt disclose a liquid fuel reservoir for a fuel cell system as described above in Paragraph 4. However, Hockaday, Olsen and Gerhardt do not disclose the

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reservoir is collapsible. Higuchi teaches a liquid container made of collapsible synthetic resin in order to substantially reduce the volume the container body after the discharge of the liquid. See Example 2. Therefore, it would have been obvious to one of ordinary skill in the art to use a collapsible material for the container of Hockaday, Olsen and Gerhardt, because Higuchi teaches the use of a collapsible container to reduce the volume of the container body after the discharge of the liquid.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dah-Wei D. Yuan whose telephone number is (571) 272-1295. The examiner can normally be reached on Monday-Friday (8:00-5:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick J. Ryan, can be reached on (571) 272-1292. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Dah-Wei D. Yuan
December 20, 2006



DAH-WEI YUAN
PRIMARY EXAMINER